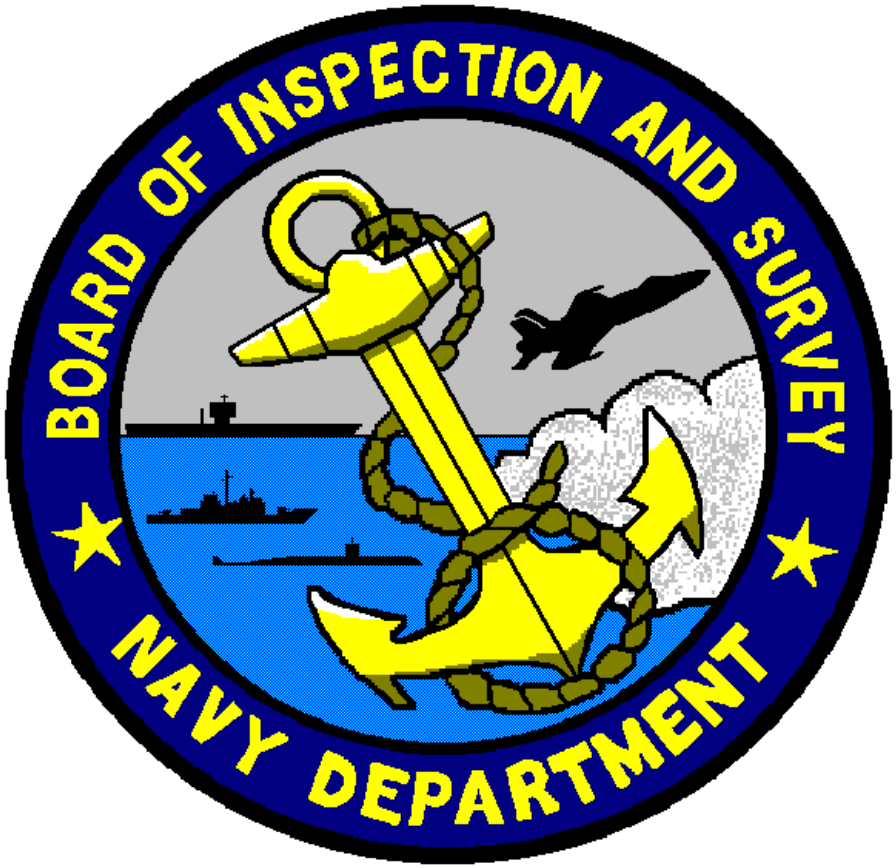

ENGINEERING CHECKS

DDG 51 CLASS (Rev 6)

AUXILIARIES (AX)
PRE-UNDERWAY PHASE
[DDG 51 CLASS MASTER CHECKLIST REV 3]

5811	ANCHOR WINDLASS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual Support	NAVSEA/OEM TECH MANUAL
Inspect PMS Support	5811/020 5811/800
Inspect posted operating/safety instructions and lubrication data	NAVSEA/OEM TECH MANUAL
Test Operate Anchor Windlass with No-Load	5811/020 U-1 5811/800 R-8
Inspect Fluid Samples	5811/020 A-4 NSTM 262
Inspect for proper HPU fluid levels	NAVSEA/OEM TECH MANUAL
Inspect anchor windlass lubrication IAW PMS requirements	5811/020 S-1R 5811/020 Q-1R
Inspect handbrake is adjusted IAW PMS requirements (recommend within 30 days of MI)	5811/020 A-1
Inspect magnetic brake is adjusted IAW PMS requirements (recommend within 30 days of MI)	5811/020 A-2
Inspect brake linkage assembly	5811/020 U-1
Test wildcat/windlass solenoid switch	5811/800 R-26 5811/800 R-8
Inspect Gauge Calibration	CRL 5811/800 R-8
Inspect relief valve data is properly posted (if data is not posted, then ship must conduct relief valve test)	NAVSEA/OEM TECH MANUAL
Inspect all flex hoses are properly tested and labeled	n/a
Inspect flange shields	n/a
Inspect for adequate nitrogen charge for windlass	n/a
Inspect speed limiter	n/a
Inspect for adequate LP air pressure for chain compressor	NAVSEA/OEM TECH MANUAL
Inspect filter differential indications	NAVSEA/OEM TECH MANUAL
Inspect HPU mechanical seal leakage	NSTM 503
Inspect Servo/Replenishment pressures during wildcat operation	NAVSEA/OEM TECH MANUAL
Inspect Chain Compressor operation	5811/020 U-1
Inspect reduction gear lubrication (gauges/sight flows/dipsticks)	NAVSEA/OEM TECH MANUAL
Test crossover valve operation	n/a

5600 / 5611	STEERING (Inport System Verification)
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	NAVSEA/OEM TECH MANUAL and EOSS
Inspect PMS Support	5600/016 5611/801
Inspect operating/safety instructions and hydraulic system/electrical wiring diagrams are posted	NAVSEA/OEM TECH MANUAL
Inspect fluid samples	5600/016 S-4R NSTM 262
Inspect static mechanical checks	5611/801 R-17 NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect relief valve test tags are within periodicity (if not, test compensator relief valve settings)	5611/801 R-15
Inspect relief valve test tags are within periodicity (if not, test main relief valve settings)	5611/801 R-15 NSTM 562
Inspect flange shields are properly installed	NSTM 505
Inspect steering gear lubrication	5600/06 R1-W
Inspect trick wheel assembly	5611/801 R-3
Test N2 accumulator charge	5600/016 R-5
Inspect proper fluid levels	5611/801 R-3 NAVSEA/OEM TECH MANUAL
Inspect filter indicators	5611/801 R-3
Inspect rudder ram finish	5611/801 R-3 NSTM 562
Inspect rudder ram cylinders for leaks	5611/801 R-3
Inspect gauge calibration	CRL
Inspect rudder stock grounding straps and post lubrication	NAVSEA/OEM TECH MANUAL 5600/016 R-11
Inspect servo/replenishment pressures are correct	5611/801 R-3
Test the rudder follow up error (1 deg increments at 0 to 5 deg; 5 deg increments at 5 to 25 deg)	5611/801 R-3 5611/801 R-2 NSTM 562
Test the trick wheel stops	5611/801 R-3
Inspect the crush block clearances	5611/801 R-3
Test (inport) rudder swing checks	5611/801 R-3
Test (inport) blocking valve	NSTM 562
Test auxiliary emergency steering pump	5611/801/R-2
Test manual emergency steering system	5611/801/R-2
Test steering casualty alarm	EOSS
Test pump remote operation and transfer of controls to pilot house	5611/801 R-3 EOSS
Test for static rudder split (pilot house in control)	5611/801 R-3 NSTM 562
Test for indicator error (pilot house in control)	5611/801 R-3 NSTM 562

5210	FIRE PUMPS (ELECTRIC and STEAM)
Component/Sub-Component	Proposed Procedure
ALL FIRE PUMPS	
Inspect Tech Manual / EOSS support	EOSS NAVSEA/OEM TECH MANUAL
Inspect PMS support	5210/806 5210/016
Inspect gauge calibration	CRL
Inspect transducer calibration	CRL
Inspect pump, motor (casing, packing/mechanical seal, coupling, etc.)	5210/806 R-10/30/33 NSTM 503
Inspect coupling guard	5210/806 R-33 OPNAVINST 5100.19
Inspect foundation	5210/806 R-3/33 NSTM 503
Inspect ferrous fasteners	5210/806 R-33 NSTM 075, 505
Inspect resilient mounts	5210/806 R-10/30/33 5210/016 U-1 NSTM 503 NAVSEA S9073-A2-HBK-010
Inspect grounding straps	5210 R-33 NSTM 300
Inspect piping & supports	5210/806 R-10/30 NSTM 505
Inspect all flex hoses are properly tested/labeled	5000/009 A-1/A-2 5000/014 A-1/A-2 NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect piping lagging	5210/806 R-10/30 NSTM 505, 635
Inspect the suction strainer	EOSS 5210/016 Q-4R NAVSEA/OEM TECH MANUAL
Test remote motor/hydraulic operated suction/discharge valves, interlocks Inspect local valves and remote control station (labeling, position indicators, etc) Inspect MHVC station oil level and relief valve test periodicity	EOSS 5210/806 R-10/30 5000/005 S-4, A-3 5000/006 2M-1, 36M-4
Test remote start/stop functions	EOSS
Test local start/stop functions	EOSS
Inspect pump operation (design discharge pressure, gages, unusual noise, bearing temps, etc).	EOSS NAVSEA/OEM TECH MANUAL
Inspect for proper seating of check valve and no reverse rotation upon securing pump	NSTM 503 NAVSEA/OEM TECH MANUAL
STEAM DRIVEN FIRE PUMPS	
Inspect lube oil filter indications and oil level	N/A
Test the over speed trip	N/A
Test the speed limiting governor	N/A
Test the turbine auxiliary lube oil pump low-pressure automatic start switch operation	N/A
Test combination exhaust and relief valve	N/A

5240	SEAWATER SERVICE PUMPS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual / EOSS support	NAVSEA/OEM TECH MANUAL EOSS
Inspect PMS support	2560/006
Inspect gauge calibration	CRL
Inspect transducer calibration	CRL
Inspect coupling guard	OPNAVINST 5100.23
Test remote start/stop functions	EOSS
Test local start/stop functions	EOSS
Inspect pump operation/design discharge pressure, unusual noise, bearing temps, etc.	EOSS NSTM 503 NAVSEA/OEM Tech Manual
Inspect packing and mechanical seal leakage	NSTM 503
Inspect for proper seating of check valve and no reverse rotation upon securing the pump	EOSS NAVSEA/OEM Tech Manual
Inspect for ferrous fasteners	NSTM 075 NSTM 505-3.1.1
Inspect foundation and resilient mounts	NAVSEA S9073-A2-HBK-010 NSTM 503
Inspect condition of expansion joints	NSTM 505
Inspect all flex hoses are properly tested/labeled	5000/009 A-1/2 5000/014 A-1/2 NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect piping lagging	NSTM 505
Inspect grounding straps	NSTM 300 NSTM 503
Test remote motor/hydraulic operated suction/discharge valves, interlocks Inspect local valves and remote control station (labeling, position indicators, etc) Inspect MHVC station oil level and relief valve test periodicity	EOSS 2560/006 A-2 5000/005 S-4, A-3 5000/006 2M-1, 36M-4
Inspect the suction strainer	2560/006 R-1 2560/006 M-1R EOSS NSTM 503
Test aux seawater low pressure alarm, start-up switch	2560/006 EOSS NAVSEA/OEM TECH MANUAL
Inspect firemain to seawater reducing station operation	EOSS

5512 / 5513 / 5515	LOW and MEDIUM PRESSURE AIR SYSTEM
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	
Inspect PMS Support	
Inspect Gauge Calibration	
Inspect operating/safety instructions are posted	
Inspect compressor oil level and oil samples	
Test compressor pressures and temperatures	
Test compressor capacity control system	
Inspect compressor belt condition	
Test compressor auto control and safety switches	
a. Operational control switches (115/120/125)	
b. Low oil pressure	
c. High discharge pressure	
d. High air and water temp	
Inspect all relief valve testing is within periodicity	
Inspect location of intake/vent supply	
Inspect receiver flask certification	
Test priority valve operation	
Inspect sea water cooling system	
Inspect 50/50 mixture of ethylene glycol	
Test type I and type II dehydrator operation	
a. Gauge calibration	
b. Tower operation	
c. Purge air pressure	
d. Automatic drain operation	
e. Dew point	
f. Inspect PMS and Tech Manual support	

5511 / 5515	HIGH PRESSURE AIR SYSTEM
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	
Inspect PMS Support	
Inspect Gauge Calibration	
Inspect operating/safety instructions are posted	
Inspect compressor oil level and oil samples	
Test compressor auto control and safety switches	
a. Start / Stop switch	
b. Low oil pressure switch	
c. Jacket water temp switch	
d. Compressor temp/pressure monitor operation	
Inspect compressor pressures and temperatures	
Inspect compressor drive belt condition	
Inspect condensate monitoring/drain system	
Inspect all flex hoses are properly tested/labeled	
Inspect all relief valve testing is within periodicity	
Inspect HP air flask certification	
Inspect sea water cooling system	
Inspect air intake/ventilation supply location	
Inspect all HP/LP air reducing stations	
Inspect fresh water pump belts	
Inspect capacity	
Inspect oil wipers	
Inspect pressure regulator valve	
Inspect 50/50 mixture of ethylene glycol	
Inspect seals for oil leaks	

5140	AIR CONDITIONING PLANTS
Component/Sub-Component	Proposed Procedure
CENTRIFUGAL UNITS (R-114, R-236fa) **RECIPROCATING UNITS (R-12, R-134a)** **(check items below as applicable)**	
Note: Some units are not equipped with isolation valves for pressure testing. Transferring a large amount of refrigerant would be required to test and is not advisable. For these installations, switch operation will be accomplished by operational means (e.g., securing/aligning s/w, turning the aux lube oil pump on/off, turning the c/w pump on/off).	Note: Applicable MRCs are used as guides to demonstrate a particular component's performance. Some MRCs may not be accomplished in their entirety.
Inspect Tech Manual / EOSS support	NSTM 516 NAVSEA/OEM Tech Manual
Inspect PMS support	5140/011 (R-114) 5140/013 (R-236fa) 5140/804 (R-114 & R-236fa)
Inspect operating/safety instructions are posted	GSO 516, 602 OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Inspect refrigerant logs	5140/011 M-4R 5140/013 M-4R
Inspect material condition	5140/804 R-2
Inspect compressor oil level, oil sample	5140/010 R-6 5140/012 R-6 EOSS
Inspect moisture indicators	5140/011 W-1R 5140/X11 2W-1 5140/013 W-1R
Inspect hermetic motor sight glass	5140/011 M-2 5140/013 M-2
Inspect gauge calibration	CRL
Verify calibration & operation of high pressure switch (236fa)	5140/013 A-8
Verify calibration & operation of pressure transducers (236fa)	5140/013 24M-4
Inspect oil accumulator pressure (236fa)	5140/013 M-1
Test safety/control pressure switch device settings and operation High pressure safety/control switch Low pressure safety/control switch Water pressure failure safety switch Oil failure/low oil pressure/differential oil pressure switch Oil temperature safety switch Compressor low pressure control switch Chill water pressure/differential flow switch Low refrigerant temp switch Chill water operating/low temp switch Thermostatic Expansion Valve (TXV)	5140/011 36M-1, R-4 5140/X11 18M-3
Inspect/test for system leaks (refrigerant/oil/water)	5140/804 R-3 5140/011 S-1R 5140/X11 S-1R 5140/013 S-1R NSTM 516 Sec. 3
Inspect for compressor shaft seal leaks	5140/804 R-3 5140/011 Q-3 5140/013 Q-3 NSTM 516 Sec. 3
Inspect coupling guard	OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Operate/test unit, verify operating parameters, Test capacity control system operation (pressure, temperature) Test current limiter, electronic control module (as applicable) Verify operation of Pre-Rotational Vanes (PRV) & Hot Gas By-Pass Valve (HGBP) (centrifugal units) Inspect capacity control external pneumatic vent connection for proper venting (applies only to Carrier compressors equipped with hydraulic cap control) Test Water Regulating Valve (WRV)	5140/804 R-4/5/12 5140/011 A-8R/9R 5140/013 A-8/9 EOSS NAVSEA/OEM Tech Manual
Test compressor suction and discharge valves (reciprocating units)	N/A
Inspect/test chill water pump Bearing lubrication Operating parameters Mechanical seal leakage Pump discharge check valve seat tightness Coupling guard	NSTM 503, GSO 503 EOSS NAVSEA/OEM Tech Manual OPNAVINSTR 5100.19

Inspect Chill Water Expansion Tank Operating level Filling air gap Hose connection warning sign Relief valves and vacuum breakers	5140/011 24M-2 5140/013 24M-2 NSTM 516, 533 GSO 602 EOSS
Inspect sea water system & controls Operate emergency cooling water reducing station Reducing valve and station pilot valve sensing line strainer Seawater regulating valve Condenser (O&I as required) Zinc anodes (O&I as required) Headers, tube sheet, divider plate (O&I as required) Strainers (Hellan, Y, Duplex) (O&I as required)	5140/804 R-3 5140/011 R-1/13, M-3R, Q-5, S-3R, A-10R 5140/X11 M-1R, R-13 5140/013 R-13, M-3R, Q-5, S-3R, A-10R 5000/015 (A or R checks as applicable to installation) NSTM 516 EOSS NAVSEA/OEM Tech Manual
Inspect/test sea water pump (as applicable) Operating parameters Bearing lubrication Mechanical seal leakage Pump discharge check valve seat tightness Coupling guard	NSTM 503, GSO 503 EOSS NAVSEA/OEM Tech Manual OPNAVINSTR 5100.19
Inspect resilient mounts	5140/011 A-4R 5140/013 A-4R NAVSEA S9073-A2-HBK-011
Inspect grounding straps	NSTM 300
Inspect flexible hoses	5000/009 A-1/2 5000/014 A-1/2
Inspect vent exhaust ducting terminal (flow, location, indicators and alarms)	NSTM 516 Sec 4
Inspect cylinder stowage racks	NSTM 516 GSO 516, 671
Inspect replacement refrigerant charge	GSO 516
Inspect lube oil filter/strainer (O&I as required)	5140/011 R-6 5140/013 R-6
Inspect dehydrator (O&I as required)	5140/011 R-3 5140/013 R-3

Inspect/test refrigerant Purge and Pump Out (PPO) unit/Refrigerant Recovery Unit (RRO) Moisture indicator Oil level Belt drive & belt guard (tension & condition) Compressor cycling (high pressure) switch Material condition (O& I as required) Dehydrator cartridge (O&I as required)	A/C& R Advisory #32 5140/011 36M-1, R-5 5140/013 A-8, R-5 EOSS NAVSEA/OEM Tech Manual
Verify halocarbon monitor installation is compatible with refrigerant type. Test halocarbon monitor	NSTM 516 OPNAVINST 5100.19 GSO 516
Inspect for non-condensable gases (as required by when compressor discharge pressure cannot be maintained with WRV)	NSTM 516

5161	**REFRIGERATION PLANTS**
Components/Sub-Components	Proposed Procedure
Inspect Tech Manual / EOSS support	**NSTM 516** **NAVSEA/** OEM Tech Manual
Inspect PMS support	5161/001 (R-12) 5161/005 (R-134a) 5161/800 (R-12 & R-134a)
Inspect operating/safety instructions are posted	GSO 516, 602 OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Inspect refrigerant logs	5161/001 M-2R 5161/005 M-2R
Inspect compressor oil level, oil sample	5161/001 R-12D 5161/005 R-12D EOP NAVSEA/OEM Tech Manual
Inspect moisture indicators	5161/001 W-1R 5161/005 W-1R
Inspect capacity control external pneumatic vent connection for proper venting (applies only to Carrier compressors equipped with hydraulic cap control)	NSTM 516 NAVSEA/OEM Tech Manual
Inspect prerotational vane operation and controls	NSTM 516 NAVSEA/OEM Tech Manual

Inspect gauge calibration	CRL
Test safety/control pressure switch device settings and operation High pressure safety/control switch Low pressure safety/control switch Water pressure failure safety switch Oil failure/low oil pressure/differential oil pressure switch Compressor low pressure control switch Chill water pressure/differential flow switch Low refrigerant temp switch Chill water operating/low temp switch Thermostatic Expansion Valve (TXV)	5161/800 R-4 5161/001 18M-2, 18M-4, U-3/4 5161/005 18M-2, 18M-4, U-3/4 NSTM 516 NAVSEA/OEM Tech Manual
Inspect/test for system leaks (refrigerant/oil/water)	5161/800 R-5 5161/001 S-1R 5161/005 S-1R NSTM 516 Sec. 3
Inspect for compressor shaft seal leaks	NSTM 516 Sec. 3
Inspect coupling guard	OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Inspect drive belts and belt guards	5161/800 R-5 5161/001 18M-1 5161/005 18M-1
Operate/test unit, verify operating parameters, and verify capacity control system operation	5161/800 R-6 5161/001 18M-2 5161/005 18M-2 EOP NAVSEA/OEM Tech Manual
Test compressor suction and discharge valves	5161/800 R-4 5161/001 U-1 5161/005 U-1
Test/verify evaporator pressure regulator (EPR) and water regulating valve (WRV) setting and operation	5161/800 R-6
Inspect for non-condensable gases (as required by when compressor discharge pressure cannot be maintained with WRV)	5161/001 Q-5R 5161/005 Q-5R
Test/verify refrigeration room door safety device, inspect door seals	5161/001 S-4R 5161/005 S-4R
Inspect gravity type cooling coils for excessive frost build-up	NSTM 516 Sec 4
Inspect drip trough heating coils/cables and indicator lights	NSTM 516 Sec 4

Inspect refrigerator room recirculating fans and indicator light, verify damper operation	GSO 516 NSTM 516 Sec 4
Inspect sea water system Condenser Zinc anodes (O&I as required) Headers, tube sheet, divider plate (O&I as required) Operate emergency cooling water reducing station Strainers (Hellan, Y, Duplex) (O&I as required) Reducing valve and station pilot valve sensing line strainer	5161/800 R-3 5161/001 S-3R, Q-4R, R-13D 5161/005 S-3R, Q-4R, R-13D 5000/015 (A or R checks as applicable to installation) NSTM 516 EOSS NAVSEA/OEM Tech Manual
Inspect resilient mounts	NAVSEA S9073-A2-HBK-010
Inspect grounding straps	NSTM 300
Inspect flexible hoses	5161/001 A-7/8/10/11 5161/005 A-7/8/10/11 5000/009 A-1/2 5000/014 A-1/2
Inspect vent exhaust ducting terminal (flow, location, indicators and alarms)	NSTM 516 Sec 4
Inspect cylinder stowage racks	NSTM 516 GSO 516, 671
Inspect replacement refrigerant charge	GSO 516
Inspect liquid line strainers and filters (O&I as required)	5161/001 R-8 5161/005 R-2, R-8
Inspect dehydrator (O&I as required)	5161/001 A-2R 5161/005 A-2R
Inspect refrigerant recovery unit and vacuum pump	NAVSEA/OEM Tech Manual
Verify halocarbon monitor installation is compatible with refrigerant type Test halocarbon monitor	NSTM 516 OPNAVINST 5100.19 GSO 516

8543	PACKAGE CONVEYOR
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	
Inspect PMS Support	
Inspect posted operating/safety instructions (two man rule/ do not ride) at each station	
Inspect posted lubrication chart at top station	
Test for audible warning when starting conveyor	
Inspect that all station doors are locked	
Inspect that all station controllers are locked	
Test door interlock system	
Inspect load/unloader at each station	
Test door cannot close when loader/unloader is in horizontal or 30 deg inclined position	
Test loader/unloader down interlock switch at each station below upper most level	
Test jam limit switch at each station	
Inspect safety shields are properly installed	
Test up-over travel switch/device operation	
Test clean out door interlock switch if applicable	
Test down overtravel device and switch	
Test indexing feature	
Test E-stop and run/stop buttons at all stations	
Inspect proper florescent lighting at each station	
Inspect trunk shielding and mounting hardware	
Inspect trunk guide rails	
Inspect conveyor trunk for preservation/cleanliness	
Inspect all carrier trays are installed and tight	
Test all station growlers and phone circuits are functional and headsets are present	
Inspect conveyor has been load tested within the last five years to include weight test data	
Inspect speed reducer is filled to proper level with oil	
Inspect drive, driven and carrier chains are properly tensioned	
Test bite panel for correct components and proper operation	
Inspect motor controller for loose leads, posted placards, grounds and correct fuses	
Inspect drive machinery for missing/loose components	

5331	POTABLE WATER PUMPS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual / EOSS Support	EOSS NAVSEA/OEM Tech Manual
Inspect PMS Support	5331/800 5331/002
Inspect Gauge Calibration	CRL
Inspect Transducer Calibration	CRL
Inspect Coupling Guard	OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Test local & remote start/stop functions of potable water pump and priming pump	EOSS 5331/800 R-3
Inspect potable water pump and priming pump operation/design discharge pressure, unusual noise, bearing temps, etc.	EOSS 5331/800 R-3 NSTM 503 NAVSEA/OEM Tech Manual
Inspect reduced pressure, vacuum breaker and double check valve backflow preventer	5331/800 R-4/5/6 5331/002 60M-1
Inspect packing/mechanical seal leakage	NSTM 503
Inspect for dissimilar metals (fasteners & piping)	NSTM 075
Inspect foundation and resilient mounts	5331/002 24M-1R NAVSEA S9073-A2-HBK-010 NSTM 300, 503
Inspect all flex hoses are properly tested/labeled	5000/009 A-1/2 5000/014 A-1/2 NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect grounding straps	NSTM 300
Test potable water pump pressure switch	5331/002 R-5

5331	WATER HEATERS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	NAVSEA/OEM TECH MANUAL
Inspect PMS Support	5331/002
Inspect gauge calibration	CRL
Inspect relief valve test data	5331/002 60M-1
Inspect relief valve drain piping	NAVSEA/OEM TECH MANUAL
Inspect cold water inlet pipe for check valve	NAVSEA/OEM TECH MANUAL
Test safety thermostatic switch	5331/002 Q-2
Test over-temp safety device	5331/002 S-2
Inspect lagging condition	NSTM 505
Inspect for steam / water leaks	NSTM 505
Inspect Temp Reg Valve for locking device	NAVSEA/OEM TECH MANUAL
Inspect heater foundation	NAVSEA/OEM TECH MANUAL
Test water temp at basin/spigot	5331/002 Q-2

6641	FAN ROOMS
Component/Sub-Component	Proposed Procedure
Inspect deck condition	GSO 509, 512, 528, 670
- No standing water	GSO 509, 512, 528, 670
- Deck rusted / exfoliated	GSO 509, 512, 528, 670
- Deck drain not installed	GSO 509, 512, 528, 670
- Deck drain missing, not secured within deck socket or inoperative	GSO 509, 512, 528, 670
Inspect deck/bulkheads have no painted over rust	GSO 509, 512, 528, 670
Inspect lighting is operative and covers installed	GSO 509, 512, 528, 670
Inspect adequate lighting present in space	GSO 509, 512, 528, 670
Inspect vent duct condition	GSO 509, 512, 528, 670
- Access covers present	GSO 509, 512, 528, 670
- Access cover fasteners not rusted/missing	GSO 509, 512, 528, 670
- Duct interior is clean	GSO 509, 512, 528, 670
Inspect correct vent/piping system labeling	GSO 509, 512, 528, 670
Inspect fan motor installed correctly (flow)	GSO 509, 512, 528, 670
Inspect filters are clean and can be easily removed	GSO 509, 512, 528, 670
Inspect filter DP gauge is operative	GSO 509, 512, 528, 670
Inspect vent heating element is operative and not deteriorated	GSO 509, 512, 528, 670
Inspect cooling coils are clean	GSO 509, 512, 528, 670
Inspect thermostatic controls are calibrated, connected and operational	GSO 509, 512, 528, 670
Inspect the cooling coil drain is piped to the deck drain and is not clogged	GSO 509, 512, 528, 670
Inspect the proper color coding of piping	GSO 509, 512, 528, 670
Inspect that all hand wheels are present	GSO 509, 512, 528, 670
Inspect for damaged / missing lagging	GSO 509, 512, 528, 670
Test the C/W or steam solenoids are operational	GSO 509, 512, 528, 670
Inspect for chilled water / steam leaks	GSO 509, 512, 528, 670
Inspect for bull’s eye and CCOL in space	GSO 509, 512, 528, 670
Inspect for any unauthorized stowed material	GSO 509, 512, 528, 670
Inspect for any unauthorized flammables	GSO 509, 512, 528, 670
Inspect the filter cleaning shop	GSO 509, 512, 528, 670

AUXILIARIES (AX)
UNDERWAY PHASE

[DDG 51 CLASS MASTER CHECKLIST REV 3]

5811	ANCHOR WINDLASS DROP AND RETRIEVAL DEMONSTRATION
Component/Sub-Component	Proposed Procedure
Test Operate Anchor Windlass with Load	5811/020 U-1
Test Mechanical Handbrake	5811/020 U-1
Inspect Servo/Replenishment and Main Relief Pressures during wildcat operation	NAVSEA/OEM TECH MANUAL
Inspect Anchor drops from the hawsepipe	5811/020 U-1
Test Magnetic brake	5811/020 U-1
Inspect motor amperage readings	NAVSEA/OEM TECH MANUAL

5600 / 5611	STEERING DEMONSTRATION
Component/Sub-Component	Proposed Procedure
Inspect proper fluid levels	5611/801 R-3 NAVSEA/OEM TECH MANUAL
Inspect correct Servo/Replenishment pressures	5611/801 R-3
Test - Demonstrate timed rudder swing checks/ blocking valve test Ahead (as per provided procedure)	5600/016 R-7 NSTM 562 INSURV NOTE
Test - Demonstrate timed rudder swing checks/ blocking valve test Astern (as per provided procedure)	5600/016 R-7 NSTM 562 INSURV NOTE
Inspect for dynamic rudder split from helm indicator	NSTM 562

5315	WATER PRODUCTION DEMONSTRATION – REVERSE OSMOSIS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual Support	NAVSEA/OEM TECHMAN
Inspect PMS Support	5315/008 5315/009 5315/800
Inspect relief valves are within periodicity	5315/008 36M-1
Inspect HP pump oil level	5315/008 R-2D
Inspect flexible hose condition and test tag	NSTM 505
Test salinity dump valves	NAVSEA/OEM TECHMAN
Test salinity panel	NAVSEA/OEM TECHMAN
Inspect Accumulator Pressure	5315/008 R-3
Test the operation of the product and brine flowmeters	5315/008 U-2
Test - Demonstrate water production capability during the 4 Hour Water Production Demonstration	NAVSEA/OEM TECHMAN
- Inspect RO to ensure the unit has not been set to produce above maximum recommended capacity (discharge pressure setting, production and sea water injection temperature diagram curve and tables)	5315/008 U-1
- Inspect the operating panel for alarm / unusual conditions.	NAVSEA/OEM TECHMAN
- Inspect 3 and 20 micron filter differential pressure	5315/008 R-1
- Inspect all fittings and connections for leaks	NSTM 505
- Inspect demineralizer operation	5315/008 U-1
Inspect freshwater flush	5315/008 M-2R

5315	WATER PRODUCTION DEMONSTRATION – VAPOR COMPRESSION
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual Support	NAVSEA/OEM TECHMAN 5312/800
Inspect PMS Support	CRL 5312/800 R-1
Inspect relief valves are within periodicity	NAVSEA/OEM TECHMAN
Inspect HP pump oil level	5312/800 R-1
Inspect flexible hose condition and test tag	5312/800 R-1
Test salinity dump valves	NAVSEA/OEM TECHMAN
Test salinity panel	5312/800 R-1
Inspect Accumulator Pressure	5312/800 R-1
Test the operation of the product and brine flowmeters	5312/800 R-1
Test - Demonstrate water production capability during the 4 Hour Water Production Demonstration	5312/800 R-1
- Inspect RO to ensure the unit has not been set to produce above maximum recommended capacity (discharge pressure setting, production and sea water injection temperature diagram curve and tables)	5312/800 R-1
- Inspect the operating panel for alarm / unusual conditions.	NSTM 505
- Inspect 3 and 20 micron filter differential pressure	5312/800 R-1
- Inspect all fittings and connections for leaks	NSTM 505/635
- Inspect demineralizer operation	NAVSEA/OEM TECHMAN
Inspect freshwater flush	NAVSEA/OEM TECHMAN 5312/800

Vapor Compression units are installed on DDG 53/56/58/59/62

ELECTRICAL (EL)
PRE-UNDERWAY PHASE
DDG 51

3241	SHIPS SERVICE GAS TURBINE GENERATORS
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test Dead Bus Pick-Up **NOTE:** GTG Circuit breakers will not close automatically.	A-10 / A-16
Test Reverse Power Relays	A-17R
Test Auto Paralleling Device	A-8R / A-9R
Test Parallel Operation	IAW EOP
Test Fault Current Detect	A-11R / A-12R A-14R / A-15R
Test Manual Load Shedding	18M-3

3140	400 HERTZ DISTRIBUTION SYSTEM (CONVERTERS)
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test Split and Parallel Operation	IAW EOP / CSOSS

4221	TELL-TALE PANEL/NAVIGATION SIGNAL LIGHT PANEL
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test Navigational Lighting Panel	R-2
Measure insulation resistance of Navigational Lighting Panel.	S-1
Measure insulation resistance of Signal Light Panel.	S-1

4331	ANNOUNCING SYSTEMS
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test General, Chemical, and Collision Alarms from all stations	Q-1R
Test 1MC from all stations	Q-1R A-1
Test 5MC Operation	Q-2R
Test 21MC Operation	Conduct Operational Test

4751	DEGAUSSING SYSTEM
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Conduct Linearity Test	Q-1
Conduct ground test.	M-2
Inspect Degaussing Folder	NAVSEA TECH MANUAL

3241	AUTOMATIC BUS TRANSFER EQUIPMENT
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test all Engineering ABTs	Q-2R
Test all remaining ABTs. (Day 2)	Q-2R / S-4R

4371	RO UNITS
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test dump valve operation	S-2
Test alarms/settings	S-2

4373	WIND INDICATING SYSTEM
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test System For Proper Operation	R-1M

5081	THERMAL IMAGING SURVEY
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Commence Thermal Imaging Throughout The Ship **NOTE**: Any equipment surveyed that has a temperature rise of 40 degrees centigrade or above (3 or 4 star) must be repaired or tagged out prior to getting underway. The items will not be available until repairs are completed and re-shot for verification	R-1 / R-2
2521	**UNINTERRUPTED POWER SUPPLIES (UPS)**
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test EPCC for Proper Operation.	A-3
Test PACC for Proper Operation.	A-2
Test SCU-1 for Proper Operation.	A-6
Test SCU-2 for Proper Operation.	A-6

ELECTRICAL (EL)
UNDERWAY PHASE

NOTE: Electrical Underway Checks Consist Mainly Of Space Walk-Through Throughout The Ship.

In each space inspect the following if applicable:

(INSPECT) FUSE BOXES

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Are fuses pulled from designated circuits without danger tags affixed?	NSTM 300 - 2.4.1
Are there loose or missing locking nuts or gear adrift?	NSTM 300 – 4.8.2.1
Are circuits properly labeled for easy identification?	GSO 305E
Are there any bent, twisted, misaligned, or broken fuse clips?	NSTM 300 – 4.8.2.1
Is the interior rusty or dirty?	NSTM 300 – 4.8.2
Are fuses of the correct amperage and voltage installed?	GSO 303F NSTM 320 – 1.7.4
Are circuits fed from one set of fuses (except battle lantern circuits) multiple?	GSO 331C
Are fuse clips phosphor-bronze instead of silver plated?	NSTM 300 – 4.8.1.2
Were door hinges broken?	5100.19 SERIES NSTM 300 – 2.1.4
Are non-silver ferruled fuses installed?	NSTM 300 - 2.5.4
Are circuits over fused?	NSTM 300 – 2.5.4
Is clearance provided to permit complete accessibility for maintenance, repair, renewal of fuses, and testing?	GS0 300D

(INSPECT) BATTLE LANTERNS

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were relay-operated lanterns installed in sufficient number?	NSTM 330 – 1.6.4.3.3.1
Are lanterns installed with suitable bracket assemblies to prevent removal of lantern?	NAVSEA 0964-000-2000
Were lanterns inoperative?	NSTM 330 – 3.6.2
Were test switches and relay frames grounded?	NSTM 330 – 2.1.8
Were lanterns located in explosion proof enclosures (prohibit)?	NSTM 330 – 1.6.4.3.2.2
Were NEALS lanterns installed and were they charged (red indicator)?	NSTM 330 – 1.6.4.3.2
Were relay operated lanterns fused?	NSTM 330 – 1.6.4.3.3.3

(INSPECT / TEST) SHORE POWER SYSTEM

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Is shore power being properly rigged?	NSTM 320 – 2.2.7
Did shore power shunt trip interlocks trip its associated breakers when tested?	IAW PMS IAW EOSS GSO 320D
Was shore power system cabling between the receptacles and the ship's switchboard insulation resistance within EOSS or PMS limits?	NSTM 320 – 2.2.7.2 IAW EOSS IAW PMS NSTM 300
Were shore power indicating lights operative, white in color, and all screws installed?	NSTM 320 – 2.2.9
Were warning signs posted?	GSO 070H
Was there pigtail stowage installed?	GSO 320D
Does the shore power system meet the current standards: - Have a Viking Connector System. - Have AQB-LF 400 Amp Circuit Breaker with shunt trip. - Have phase sequencing and phase orientation devices. - Have power available lights at switchboard and shore power connection box. Have installed ammeter and selector switch to monitor total shore power current.	GSO 320D

(INSPECT) CATHODIC PROTECTION SYSTEM

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was the installed Cathodic Protection System operative and adjusted IAW PMS?	GSO 633C IAW PMS
Were the rudder grounding straps made of 1-1/2 inch Wide braided copper and brazed to the rudder stock and the hull?	NSTM 633 – 3.3.2.7 GSO 633C

(INSPECT) CATHODIC PROTECTION SYSTEM	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Has the system been turned off for greater that 15 days?	GSO 633G
Were shaft grounding brushes correctly installed?	NSTM 633 – 3.3.2.6 ICCP TECH MANUAL
Shaft grounding brushes exhibit full contact with the slip ring?	NSTM 633 – 3.3.2.6 ICCP TECH MANUAL
Was brush rigging correctly installed?	NSTM 633 – 3.3.2.6
(INSPECT / TEST) ALARM SYSTEMS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test alarm switchboards and panels.	IAW PMS
Were any alarm and warning systems inoperative or missing parts?	GSO 433J
(INSPECT) ORDER/INDICATING/METERING SYSTEMS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were Tank Level Indicators (TLI's) out of calibration or inoperative?	GSO 437 E
Were valve position indicator circuits misadjusted or inoperative?	GSO 430H
Were there missing or inoperative salinity cells?	GSO 531B IAW PMS
MOTOR CONTROLLERS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were interiors dirty, rusty, deteriorated, or contained gear adrift?	NSTM 300-5.2.4 NSTM 302-3.3.2
Were wiring diagrams, schematics or overload heater tables missing?	NSTM 302-3.3.1 GSO 302F
Was controller electrical wiring properly banded?	ELECT PLT. INST. STD METHODS/GSO 302F
Were Start, Stop, "Emergency Run" or Reset buttons seized, missing or inoperative?	EQUIPMENT TECH MANAUL AND DRAWINGS
Were rubber boots cracked, torn or missing?	NSTM 300-3.2.2
Were overload relay heaters properly sized and adjusted to provide adequate protection for the motor?	NSTM 302-3.3.2 GSO 302G
Were switches protected against inadvertent activation?	GSO 070H
Were controllers with multiple power sources properly labeled?	GSO 305C
Were motor foundations properly preserved?	GSO 631J
Was resilient mounted electrical equipment grounded to the ships hull through ground straps?	NSTM 300-4.3.3 NSTM 302-2.4.1.1.1 DOD-STD-2003 MIL-STD-1310
Did electrical rotating machinery have ball check grease fittings (zerk fittings) installed?	NSTM 244-1.7.7
Were coupling, belt, or chain guards effective?	NSTM 302-2.4.1.1 GSO 070H
Were controllers and remote operating stations properly labeled?	GSO 305C
Is clearance provided to permit complete accessibility for operation, maintenance, repair, renewal of fuses, and testing?	GSO 300D
WORKBENCHES	

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was the electrical workbench properly installed, to include: - Front panel, Side Panel, Back panel and Kneehole Insulation. - Disconnect Switch properly installed and labeled. - 48-inch ground strap for every 4 feet of workbench. - 5KVA isolation transformer installed. - Safety Placards.	NSTM 300 APPENDIX H GSO 320E GSO 665 GSO 650

(INSPECT) ELECTRICAL SAFETY

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were flat irons a high-grade commercial type with a three pronged cord?	NSTM 300-2.7.3.6 GSO 640G
Were Ironing Board Stations in berthing space modified to remove spotlight and fill the access hole? Ensure irons are not hardwired.	GSO 640G
Have electronic and electrical shorting probes been modified by installing a nylon screw in the end of the probe and soldering the clip to the conductor?	NAVELEX 0101, 110A FIG 1-3 IAW PMS
Are portable tools/devices not stamped "Double Insulated" or equipped with a three pronged cord?	NSTM 300-2.7.3.3 IAW PMS
Were Hospital grade plugs used on portable equipment?	NSTM 300-2.7.3/2.8
Were light fixtures, guards, and covers securely mounted?	NSTM 300-4.3.3
Were over-sized lamps installed in lighting fixtures?	NSTM 330-2.2.4 NSTM 330-2.2.9
Were light fixtures missing lenses, protective guards, or faceplates?	NSTM 330-2.1.4 NSTM 330-2.2.6
Did diesel module room have adequate lighting?	GSO 331B GSO 332E
Were spray-tight fixtures adequately protected against water intrusion?	NAVSEA 0964-000-2000
Was bunk lighting cable hanging, or not routed through the inside of bunk stanchions?	NAVSEA 0964-000-2000
Were plastic-cased bunk light reflectors and toggle switches properly grounded?	NSTM 300-2.2.1.4

(INSPECT) CABLING

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was PVC cabling installed (new construction only)?	GSO 304D
Were dead-ended cables properly identified/terminated?	NSTM 300-4.6.7 GSO 304E NSTM 300-4.6.9 DOD-STD-2003-1
Were useless or improperly installed cables removed?	NSTM 300-4.6.7.1 GSO 304E
Was cabling properly supported, routed or were nylon wire ties being utilized?	GSO 304E
Were cables pulling out of equipment?	GSO 331E
Were cables improperly spliced?	GSO 304E NSTM 300-4.6.8 DOD-STD-2003-1
Were cables protected against being handholds or being stepped on?	GSO 304E
Was cabling run through beams without the use of chaffing rings?	NSTM 300 TABLE 300-4-4 GSO 304E
Was cabling running through metal partitions equipped with grommets?	GSO 304E NSTM 320-1.6.11
Was cabling on weather decks and engineering spaces deteriorated?	NSTM 300 TABLE 300-4-4 GSO 304C
Were cable stuffing tubes properly assembled ?	NSTM 300-4.6.10.1 NSTM 300 TABLE 300-4-4

	NSTM 320-1.6.11 GSO 304E
Were multiple cables running through one stuffing tube?	GSO 304E NSTM 300 TAB. 300-4-4
Were multi-cable penetrators installed in Flammable Liquid Storerooms?	GSO 304E MIL-STD-1310
(INSPECT) BUS TRANSFER EQUIPMENT	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were ABT's installed for the following: - Emergency Lighting. - IC Switchboard and panels. - Steering power panel. - Pumps associated with the main and auxiliary machinery plant having Low Voltage Release (LVR) control. - Fire pumps. - Fire extinguishing auxiliaries and controls.	NSTM 320-1.3.2 GSO 320D
(INSPECT) BUS TRANSFER EQUIPMENT	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Did ASCO ABT transfer switches have an electrical charge on the metal screw on the manual operator?	NAVSEA FSC SER 03E2/03E2-234
Was the sliding interlock on manual bus transfer switches effective at preventing both breakers from being closed at the same time?	NSTM 300-4.8.4.2
Are feeder circuit breaker megger holes blanked off?	NAVSEA 230319ZNOV 98
Were Normal/Alternate source indicating lights operative?	NSTM 320-2.2.6.4
Were Automatic Bus Transfer Devices operating properly	NSTM 300-4.8.4.2 NSTM 320-1.3.2.1 GSO 300J 320D
(INSPECT) SHIP TELEPHONE SYSTEM	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was the system unreliable due to unresolved software or hardware deficiencies?	NSTM 430-3 GSO 432
Test battery back-up for telephone system	NSTM 313-2.5 GSO 313J
(INSPECT) MOTORS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were motor foundations properly preserved?	NSTM 300
Was resilient mounted electrical equipment grounded to the ships hull through ground straps?	NSTM 300
Did electrical rotating machinery have ball check grease fittings (zerk fittings) installed?	NSTM 244
Were coupling, belt, or chain guards effective?	GSO 320E
POWER PANELS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Do labels specify the proper information?	GSO 305E
Do Breaker ratings match the circuit label current rating?	GSO 305E
Are multi-phase circuits missing breaker connecting handles?	GSO 324C
Were power panels located inside galley spaces?	GSO 320E
Is clearance provided to permit complete accessibility?	GSO 300D
CASUALTY POWER CABLES	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were cable ends properly terminated?	GSO 304E NSTM 320-3.4.1 DOD-STD-2003
Were cables deteriorated from age, heat, and humidity?	NSTM 079-47.4.2.2.10
Were normally energized power terminals labeled?	NSTM 320-1-2-8-2 GSO 320G
Were racks properly identified as to number/length of cables assigned to the rack?	GSO 305F

Is there a label attached at the end of the cable to indicate the length and stowage rack number?	GSO 305F DOD-STD-2003
Are cable leads properly identified for phase identification?	NSTM 320-1.2.8.2
Were cable ferrules missing or heavily oxidized?	NSTM 079-47.4.2.2.6
Was an improper number/length of cable installed on a cable rack?	NSTM 079-47.5.6.1 GSO 320G
Were wrenches missing from terminals?	NSTM 079-47.4.2.3.3
Were covers installed on power terminals?	NSTM 079-47.4.2.3.4 NSTM 079-47.4.2.3.6 GSO 320G

ELECTRICAL DISTRIBUTION EQUIPMENT	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was electrical distribution equipment securely mounted?	NSTM 300-4.3.3 GSO 300D
Electrical distribution equipment have loose or missing covers?	NSTM 300-4.3.3
Were control knobs or fasteners missing from electrical equipment?	NSTM 300-4.3.3
Was electrical equipment protected from water intrusion?	NSTM 300-4.4.1 NSTM 300-4.4.5
Is electrical properly mounted or was it suspended solely by electrical cables?	NSTM 300-4.3.3
Were 440 multipurpose outlets properly phased?	NSTM 320-1.4.1
Did Standard Navy Receptacles (SNR) and Multi-Purpose Outlets (MPO) have an interlock switch or was the switch function such that the plug could not be removed from an energized receptacle?	NSTM 320-1.4.1
Were electrical receptacles broken or damaged?	NSTM 300-2.7.6
Were 400HZ AC, 60HZ AC, and DC convenience outlets labeled to prevent equipment being used with the wrong frequency?	GSO 320

SOUND POWERED TELEPHONE SYSTEMS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were Sound Powered Telephone Circuit Amplifiers missing or inoperative?	NSTM 430-3.1
Were any Sound Powered Circuits below 50,000 ohms resistance to ground?	GSO 432I
Were Sound Powered Call Signal Stations (growlers) inoperative, corroded, damaged or missing parts?	NSTM 430
Were Sound Powered Jackboxes improperly labeled, corroded, damaged, or missing parts?	NSTM 430-3.2

(INSPECT) LIGHTING	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were darken ship switches operative and adjusted properly?	NSTM 330-3
Were light fixtures, guards, and covers securely mounted?	NSTM 300-4
Were over-sized lamps installed in lighting fixtures?	NSTM 330-2
Were light fixtures missing lenses, protective guards, or faceplates?	NSTM 330-2
Were spray-tight fixtures adequately protected against water intrusion?	NSTM 300-4
Did diesel module room have adequate lighting?	GSO 331B/332E
Were plastic-cased bunk light reflectors and toggle switches properly grounded?	NSTM 300-2

(INSPECT) BATTERY LOCKERS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was a Battery Log maintained?	NSTM 313-2
Is there an electrical interlock between exhaust ventilation and battery charger?	5100.19C C0904 NSTM 313
Are Alkaline and Lead Acid Batteries being serviced in the same facility?	5100.19 C0904
Is each locker provided with: - Rubber Gloves and Aprons. - Goggles. - Two battery fillers. - Two battery test sets. - One soda water container.	5100.19 GSO 313F
Does the locker contain an eye wash station and a deluge shower?	NSTM 313-2
Are battery storage racks greater than 12 inches between tiers?	GSO 313F
(INSPECT) BATTERY LOCKERS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were battery hold-down clamps provided?	GSO 313F
Are Acids stored in appropriate protective containers?	GSO 313F
Are battery charger plugs and jacks marked NEG. and POS.?	GSO 313F
(INSPECT) MISCELLANEOUS EQUIPMENT	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Is permanently mounted electrical equipment hardwired to the ships electrical system?	NSTM 330-1
Is hardwired electrical equipment permanently mounted?	NSTM 330-1
Was more than 1 multi-purpose power strip connected to one isolated receptacle circuit?	NSTM 300-2.7
Is electrical equipment mounted on non-conducted surfaces properly grounded?	3000 / A-5
Were Surge Protectors of the approved type?	3000 / A-4R
Are portable electric device power cords properly tinned?	3000 / Q-1R
Are permanent-type safety precautions, operating instructions, high voltage warning signs, and resuscitation instructions installed where required?	NSTM –H.5, I-2
Did electrical connection boxes have knockouts pushed in leaving access holes In the side?	NSTM 300-2.
Are non-watertight connection boxes being used in engineering spaces?	GSO 300D
Was rubber matting oil soaked, cracked, punctured, perforated or had imbedded metal or conductive particles?	GSO 634B
Was accommodation ladder lighting of the proper typed? (Not to use dress ship lights attached to gangway handrails)?	NSTM 330-1
Did dress ship lights have broken, missing, or incorrect guards?	NSTM 330-1 3000/ R2
Were dress ship light receptacles labeled “Dress Ship Light Streamers. Not to be used for any other purpose”?	NSTM 330-1-
Were panel switches controlling circuits that are de-energized during darkened ship operation marked DARKENED SHIP?	NSTM 330-1
Had the float charge on the UPS batteries been reduced from 135vdc to 129vdc?	IAW PMS
Was UPS electronic cabinet bottom sealed to prevent water of oil entry from lower level engine room?	GS0 300D/324D NSTM 300-4

ELECTRICAL (EL)
POST-UNDERWAY
DDG 51

	OPEN AND INSPECT AS REQUIRED BY THE INSPECTION
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**

MAIN PROPULSION (MP)
PRE-UNDERWAY PHASE
DDG 51

2340	**MAIN ENGINES**
Component/Sub-Component	Proposed Procedure
Test Blow in Doors	**2513/007 (R-6)**
Test GTM Fire Extinguishing System - Halon/C02 Bottles - Conduit/actuation cables - Hoses/fittings/check valves - Time delay	**2521/051 (S-9)** 5553/001 (S-2R)
Inspect Gas Turbine - Gas Generator Assembly - Power Turbine Assembly - Transfer Gear box and components - Bleed Air Manifold	EOP GTMI GGTB 17, REV A
Inspect Base Enclosure Interior/Exterior and bonding /grounding straps	2340/004 (R-20) 2340/004 (R-26)
Verify all technical directives have been installed	GTB/MGTESR
Inspect LOSCA	EOP SOLA
Instruments, gauges and thermometers	CRL
Inspect Intake Dirty Side Inspect Intake Plenum Inspect Bell Mouth Screen	2340/004 (R-12)
Inspect Demister Pads/Gaskets/Frames Inspect Intake (Silencer level)	2513/007 (R-3)
Conduct LP Air Start and GTM Idle Checks	**EOP CAMS**
Conduct HP Air Start and GTM Idle Checks	**EOP CAMS**
Conduct Methanol Test	**NSTM 262-5.4.2.1**

2411	**REDUCTION GEARS**
Component/Sub-Component	Proposed Procedure
Test Shaft Turning Gear	**EOP MRTG**
Test GTM PT Brake Assemblies	**EOP CMSI**
Inspect Lube Oil Condition/sump level	2000/001 (R-1)
Inspect MRG Interior - Gear Teeth contact/condition - Lube Oil Spray Pattern - Casing Interior - Attached LO Pump Angle Drive Gear - Attached CRP Angle Drive Gear - SSS clutch Manual Lock-out Mechanism operation - Power Turbine Break Piston Travel - Input Shaft Seals	2411 (A-5);
Inspect Oil Flow in SFI's	NSTM 244-33.3.6
Instruments, gauges and thermometers	CRL
Inspect Casing Exterior	NSTM 241
Inspect Vent Fog Precipitator	EOP RGVS
Inspect Dehumidifier	EOP MRDH
Inspect Security Devices	NSTM 241-4.2.3
Inspect Flange Shielding	NSTM 505

Inspect Piping Systems	NSTM 505

2441	LINE SHAFT BEARINGS
Component/Sub-Component	Proposed Procedure
Inspect Lube Oil Condition/sump level	2000/001 (R-1)
Inspect Sump Drain Valve	2000/001 (R-1)
Inspect Seals	NSTM 244-2.6.30
Instruments, gauges and thermometers	CRL
Inspect Lubricator	NSTM 244
Inspect Dip Stick	NSTM 262
Inspect Lock Wires	NSTM 244
Inspect Bearing Depth Mic Surface	NSTM 244
Inspect Foundation	NSTM 631

2400	STERN TUBE SEALS
Component/Sub-Component	Proposed Procedure
Test Cooling Water Low Flow Alarm	**2411/018 (S-1, S-4)**
Test Inflatable Seal	**2431 (R-3)**
Instruments, gauges and thermometers	CRL
Inspect Cooling Water Piping	NSTM 505
Inspect Cooling Water Strainer/Filter	EOP STCW
Inspect LP Air Supply	NSTM 505
Inspect LP Piping/Hoses/Fittings	NSTM 505
Inspect CO2/N2 Bottles/Piping/Fitting	2400/013 (24M-3R)
Inspect Emergency Flax Packing Kit	NSTM 244
Inspect Backing Ring	NSTM 244

2451	CRP SYSTEMS
Component/Sub-Component	Proposed Procedure
Inspect CRP Head Tank	
Verify Calibration between Consoles and OD box	**EOP CPPT**
Test Slew Rate	**EOP CPPT**
Test Command Pitch Mismatch Alarm	**EOP EOT**
Test Emergency Pitch Pump	**2451/001 (R-8)**

Inspect HOPM - Flex Hoses - Piping - Instruments, gauges and thermometers - Flange Shields	EOP CPPC 2451/006 (24M-1R) NSTM 505 CRL
Inspect Electric CRP Pump - Motor - Controller - Pump - Mechanical Seal - Instruments, gauges and thermometers - Flange Shields	EOP CPPC NSTM 503-5.3.8.1.2.
Inspect Oil Condition	2451/006 (R-1W)
Inspect Attached CRP Pump - Inspect Mechanical Seal	NSTM 503-5.3.8.1.2.

2620	LUBE OIL SYSTEMS
Component/Sub-Component	Proposed Procedure
Test MRG Lube Oil Sequencing	**2620/013 (S-2)**
Test/Inspect Lube Oil Strainer	**EOP LODS**
Test Lube Oil Purifier and Heater	**EOP LOPO**
Inspect Electric MRG Lube Oil Pump - Motor - Controller - Pump - Mechanical seal - Piping /flex hoses - Relief valves - Instruments, gauges and thermometers - Flange Shields	EOP CLOP 2451/006 (24M-1R) NSTM 503-5.3.8.1.2. NSTM 505 CRL
Inspect Attached MRG Lube Oil Pump - Mechanical seal - Piping/flex hoses - Relief valve - Instruments, gauges and thermometers - Flange Shields	2451/006 (24M-1R) NSTM 503-5.3.8.1.2. NSTM 505 CRL

Inspect Temperature Regulating Valve	NSTM 505
Inspect Unloading Valve	NSTM 505
Inspect Lube Oil Purifier - Motor - Controller - Piping/flex hoses - Relief valve - Instruments, gauges and thermometers - Flange Shields	2451/006 (24M-1R) NSTM 503-5.3.8.1.2. NSTM 505 CRL

2610	FUEL OIL SYSTEMS
Component/Sub-Component	Proposed Procedure
Test Fuel Oil Booster Pump Logic Sequencing and Fault Circuitry	**2610/059 (S-12)**
Test Service Tank Suct/Recirc Valves	**EOP CFOP**
Test Quick Closing Valves	**EOP CFOP**
Test Coalescer Interlock	
Test Coalescer Filter Shift Points	
Test GTM Fuel Oil Solenoid Trip Valves	**EOP CFOP**
Inspect Booster Pumps - Motor - Controller - Flexible coupling - Mechanical seal - Piping - Relief valves	EOP CFOP 2451/006 (24M-1R) NSTM 503-5.3.8.1.2. NSTM 505
Inspect fuel oil service heater	2610/059 (A-9)
Inspect instruments, gauges and thermometers	CRL

2521	CONTROLS
Component/Sub-Component	Proposed Procedure
Test PACC Alarms and Indicators	**EOP CTAI**
Test PLCC Alarms and Indicators	**EOP CTAI**
Test EOT Wrong Direction Alarm	**EOP EOT**
Test PACC on UPS	**2521/051 (A-12)**
Test PACC and PLCC Self Logic Test	
Conduct Torque Computer Test	
Inspect PACC instruments	CRL
Inspect PLCC instruments	CRL
Inspect Torsionmeter	CRL
Inspect 800 Group Print	EOP CPSA
Inspect and Test Bell/Data Logger	EOP CPSA

	HULL STRUCTURE
Component/Sub-Component	Proposed Procedure
Bilges	NSTM 631
Deck Plates	EOP MLOC
Equipment Foundations	NSTM 631
Pipe Brackets/Hangers	NSTM 505
Paint and Preservation	NSTM 631

5516	BLEED AIR SYSTEMS
Component/Sub-Component	Proposed Procedure
Test Motor Air Reg valve	**EOP CBAM**
Test Masker Air Transfer Valve	**EOP CBAM**
Test Mixing Bypass valve	**EOP CBAM**
Test High Temp Bleed valve	**EOP CBAM**
Test Masker Cooler inlet valve	**EOP CBAM**
Test PRAIRIE Air Cooler inlet valve	**EOP CBAM**
Test GTM 16th Stage Bleed Air valves	**EOP CBAM**
Test GTG 14th Stage Bleed Air valve	**EOP CBAM**
Test GTG Start Air Cooler inlet valve	**EOP CBAM**
Test HP Start Reg valve	**EOP CBAM**
Test 3 GTG Bleed Air Isolation valve	**EOP CBAM**
Inspect GTM Bleed Air Reg valves	EOP CBAM
Inspect GTG Bleed Air Reg valve	EOP CBAM
Inspect Prairie Air Roto Seal	EOP CBAM

Inspect Flex hoses	5516/004 (A-7)
Inspect GTG Start Air Cooler	EOP CBAM
Inspect instruments, gauges and thermometers	CRL
Inspect Piping/Fittings	NSTM 505
Inspect Masker Air Cooler	EOP CBAM
Inspect Masker Air Cooler relief vlv	EOP CBAM
Inspect Prairie Air Cooler	EOP CBAM
Inspect Prairie Air Cooler relief vlv	EOP CBAM
Inspect drain orifices	EOP CBAM

	FUEL OIL XFER SYSTEMS
Component/Sub-Component	Proposed Procedure
Test/operate Fuel Oil Purifier	**EOP FOPO**
Inspect Transfer Pumps - Motor - Controller - Mechanical seal - Piping/flex hoses - Relief valves - Flange shields	EOP FOPO 2451/006 (24M-1R) NSTM 503-5.3.8.1.2. NSTM 505
Inspect fuel oil transfer heater	EOP FOPO
Test Motor Operated Valves	
Inspect fuel oil transfer and ballast consol	EOP CAF
Test FSCC Alarms and Indicators	
Test Local Fuel Control Console Alarms and Indicators	
Inspect instruments, gauges and thermometers	CRL

3113	**GAS TURBINE GENERATORS**
Component/Sub-Component	Proposed Procedure
Test operation of RPM and temperature circuits Test Fire detection and protection circuitry Test LOCOP Alarms and Indicators	**3113/006 (R-20)**
Test blow-in door automatic operation	**3431/002 (Q-5)**

Inspect Turbine Enclosure - Compressor - Accessory Gear box - Diffuser Case - Combuster - Bleed Air Manifold - Electrical Wiring and Cables - Thermocouple harness and junction box - 5th and 10th stage bleed air valves - Elastomers - Engine side mounts - Enclosure Exterior - Enclosure Interior	3113/006 (24M-2R/R-9) EOP GTGI
Inspect Reduction Gear Enclosure - Electrical Wiring and Cables. - Reduction gear vent piping - PTO shaft housing speed pick-up - Reduction gear lube oil sump level - Starter	EOP GTGI
Inspect Fire Fighting System - C02 Bottles - Conduit/actuation cables - Hoses/fittings/check valves	
Inspect/shift duplex seawater cooling strainers	EOP STCW
Verify Engine lube oil sump level (23699)	2000/001 (R-1)
Inspect Module Mounts	GGTB 10 REV 1 AMED. A
Inspect GTG Flex Hoses	GGTB 6 REV 1
Inspect instruments, gauges and thermometers	CRL
Start GTG Verify all Start/Operating limits - Inspect thermocouple spread and average monitor	

INTEGRATED CONDITION ASSESSMENT SYSTEM (ICAS)	
Component/Sub-Component	Proposed Procedure
Verify operational status of each workstation	
Verify number of required portable data terminals (PDT) and that they are operational	

Verify number of required portable diagnostic aids (PDA) and that they are operational	
Are any critical system errors shown in the system log?	
Ensure data for at least two routes from actual rounds	
Ensure data from Data Acquisition devices is being received as required	
Verify Demand Data is received and processed accurately	
Verify database data is received and processed accurately	
Ensure router connections are operating properly	
Ensure remote demand data and database data are available to be viewed.	
Verify all required system links are available	
Verify all ICAS printers are operational	
Verify picture book is available for vibration checks	
Verify vibration data is being taken per PMS	
Verify vibration disc are installed on all equipment	
Conduct vibration surveys on selected equipment during the full power demonstration	
Inspect all cabinet air filters	
Inspect all ICAS computer equipment	
Inspect computer internal shocks and fans	

MAIN PROPULSION (MP)
UNDERWAY PHASE
DDG 51

FULL POWER AND QUICK REVERSAL DEMONSTRATIONS	
Demonstrate Auto Plant Mode Logic (Split plant to Full Power)	**EOP CSSF**
Demonstrate Full Power ahead (1 hour)	**2340/004 (R-9)**
	EOSS/POG/9094.1B
Demonstrate Quick Reversal Astern	**POG/Full Power Memo/EOSS**
Demonstrate Quick Reversal Ahead	**POG/Full Power Memo/EOSS**
LUBE OIL PURIFIER DEMONSTRATION	
Demonstrate purifier operation	**EOP LOPO**
FUEL OIL TRANSFER DEMONSTRATION	
Demonstrate fuel oil purifier (s) operation	**EOP FOPO**
Demonstrate purifier (s)emergency stop capability	**EOP FOPO**
PRAIRIE/ MASKER/BLEED AIR SYSTEM DEMONSTRATIONS	
	Proposed Procedure
Verify operation and calibration of all gauges and instruments	**CRL**
Test GTM and GTG check valve operation	**EOP BSAA, 5516 (24M-1R)**
Measure masker air flow rates to emitter belts in MER 1 and MER 2	
Measure Prairie air flow rates in MER 1 and MER 2	
Measure masker air flow rates to main strut fairwater and main strut rope guard	
Test GTM and GTG bleed air pressure regulating valves	